

ABSTRACT

A tracing or marking isotope micro-bubble reagent with targeting substance, the combination or mixture of ultrasonic micro-bubble imaging reagent with tracing or marking isotope. The tracing or marking isotope includes generally medical used isotopes. The micro-bubble reagent includes fluoro-carbon type, medical salt water type, semi lactose bubble liquid type, envelope bubble liquid type and carbon dioxide generating type. Large molecule substance is selected as the carrier of ultrasonic reagent to wrap, stick, stabilize and carry the bubbles. The tracing or marking isotope micro-bubble reagent with targeting substance is applied to position the tumor area in the treatment of tumor by using low frequency, low energy ultrasonic to induce the cavitation effect of micro-bubbles to form thrombus embolus in blood vessels. Meanwhile, radial  $\beta$  isotope is applied to radiate the tumor cells by using the ionizing radiation biological effect thereof.